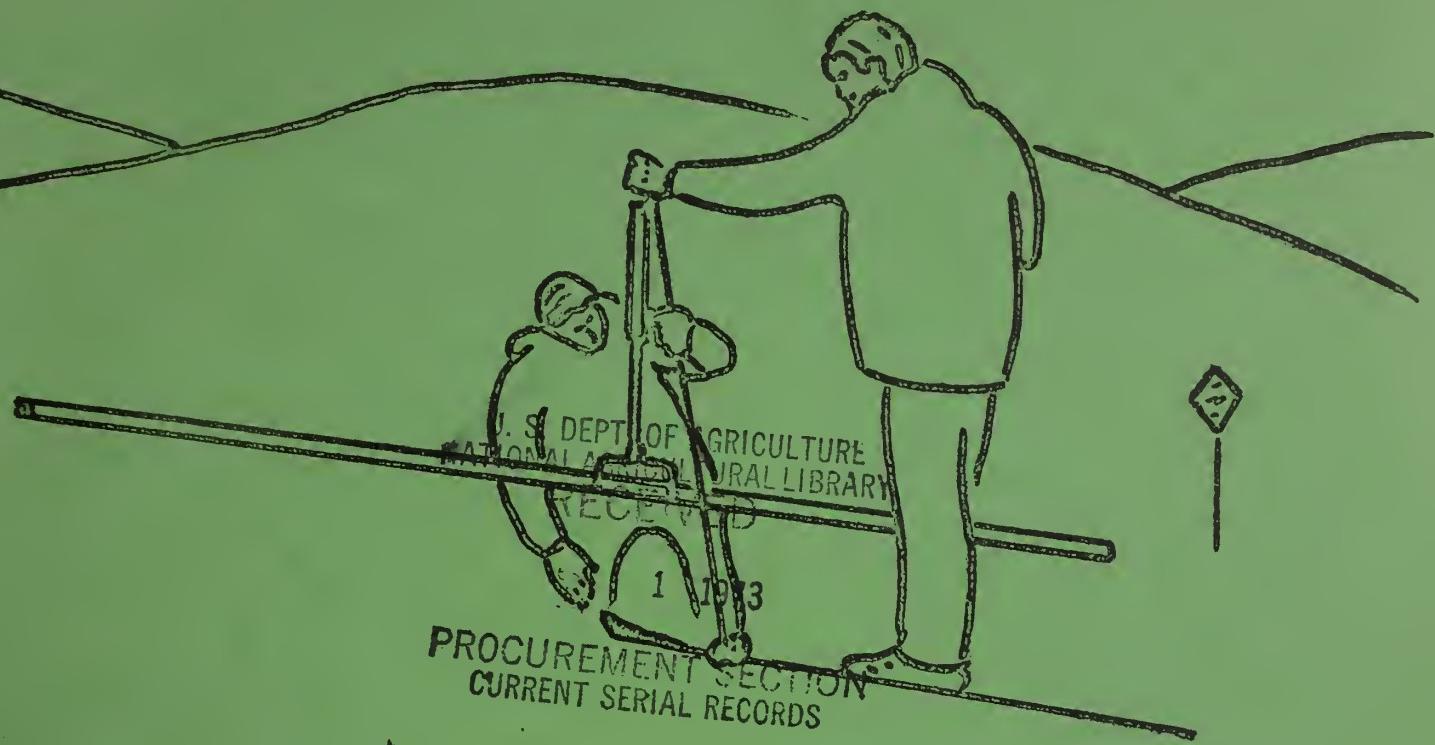


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Do not assume content reflects current scientific knowledge, policies, or practices.



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# WATER SUPPLY OUTLOOK FOR ARIZONA

APRIL 15, 1973



## ARIZONA WATER SUPPLY OUTLOOK

APRIL 15, 1973

The water supply outlook this year is excellent, with large amounts of carry-over storage available for next year on most projects.

### SNOW COVER

Snow finally stopped falling, but due to cold temperatures the snowpack has declined amazingly little. Only 2 to 4 inches has melted, amounting to a 20% reduction of water content. The snow line, however, has raised considerably with practically no snow left below 7,000 feet.

The deepest snow ever measured in Arizona occurred this year on Mt. Ord. The 150 inches reported April 1 has settled to 134 inches, but the 52.6 inches of water content by far exceeds any previous measurement. Snow will not disappear at the 11,000 foot level until mid-July. The aerial markers on the San Francisco Peaks are completely buried, so conditions there are likely to be similar to the White Mountains. Ground crews were unable to reach this area, but plan to make the trip May 1.

### PRECIPITATION

April precipitation has been much below normal so far. Since November 1, however, precipitation has been twice average on the Verde Watershed, 60% above average on the Salt and Little Colorado Rivers, and 45% above average on the Gila Watershed.

### RESERVOIR STORAGE

Most reservoirs are at maximum operating levels. So far 800,000 acre-feet has been released from Salt River Project reservoirs into the Salt River Channel and 200,000 more is likely to be necessary. Most of this 1 million acre-feet, worth over \$10 million dollars, could have been saved if we had Orme Dam. Lyman Reservoir is now only half full, but is expected to fill as runoff increases at the higher elevations later this month. Storage in San Carlos is steadily rising and could exceed the previous maximum set in 1942 if most of the inflow occurs before the heavy use starts.

### STREAMFLOW AND WATER SUPPLY

Runoff was very high the first half of April with Salt River Project streams producing almost 400,000 acre-feet. Another 600,000 acre-feet is expected by the end of May. The total spring runoff (January-May) will be four times average, amounting to about 2 million acre-feet. This is the heaviest runoff since 1941. Conditions on the Gila River, as usual, are not nearly as good. Flows will not exceed that received in 1968.

Water supplies will be plentiful this year with significant carry-over storage available for next year.

THIS IS THE FINAL REPORT OF THE SEASON.



## STREAMFLOW FORECASTS

ABOUT APRIL 15,  
1973

BASIN STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST Thousand Acre Feet	Percent of Average	FORECAST PERIOD	THOUSAND ACRE FEET Last Year
<u>SALT RIVER DRAINAGE</u>				
Salt near Roosevelt	350	412	April	15.3
"	550	452	Apr-May	24.6
Tonto Creek near Roosevelt	54	835	April	0.5
"	61	792	Apr-May	0.8
Verde River above Horseshoe	358	880	April	10.7
"	388	774	Apr-May	19.1
Total Salt River Project	762	576	April	26.5
"	999	556	Apr-May	44.5
<u>GILA RIVER DRAINAGE</u>				
Gila River at Calva	130	812	Apr-May	2.7
Gila River near Gila	75	446	Apr-May	6.5
Gila River near Solomon	125	498	April	4.7
"	190	549	Apr-May	8.1
Gila River near Virden	105	603	Apr-May	5.9
Frisco River at Clifton	100	529	Apr-May	4.9
Frisco River at Glenwood	50	617	Apr-May	2.3
<u>LITTLE COLORADO RIVER DRAINAGE</u>				
Little Colo. River above Lyman Dam	22	360	Apr-June	0.6
<u>GRANITE CREEK DRAINAGE</u>				
Granite Creek	2	---	Apr-May	---
Willow Creek	0.8	---	Apr-May	---
<u>MIMBRES RIVER DRAINAGE</u>				
Mimbres River near Mimbres	4	308	Apr-May	0.7
<u>COLORADO RIVER DRAINAGE</u>				
Virgin River near Littlefield	105	314	Apr-June	13.0
Colorado River -- Lake Powell Inflow (Issued by SCS, Salt Lake)	7,683	118	Apr-July	6,527

† Based on the 15-year period,  
1953-67



1973

SPRING RUNOFF

STREAM AND STATION	Measured	<u>1/</u>	Forecast	Total - January thru May	15-Year Average	% of Average
	Runoff Jan-March	Runoff April-May	1973			
Salt River at Intake	509.0	550	1059.0	280.9	377	
Verde River above Horseshoe	354.2	388	742.2	171.9	432	
Tonto Creek above Roosevelt	113.9	61	174.9	42.6	411	
Gila River near Virden	155.2	105	260.2	59.3	439	
Gila River near Solomon	298.6	190	488.6	119.6	409	
Gila River near Calva	288.3	130	418.3	78.2	535	
Frisco River at Clifton	122.6	100	222.6	59.8	372	
Little Colorado Jan-June	6 *	22	28	9.0	311	

1/ Provisional runoff obtained from USGS

\* Partially estimated



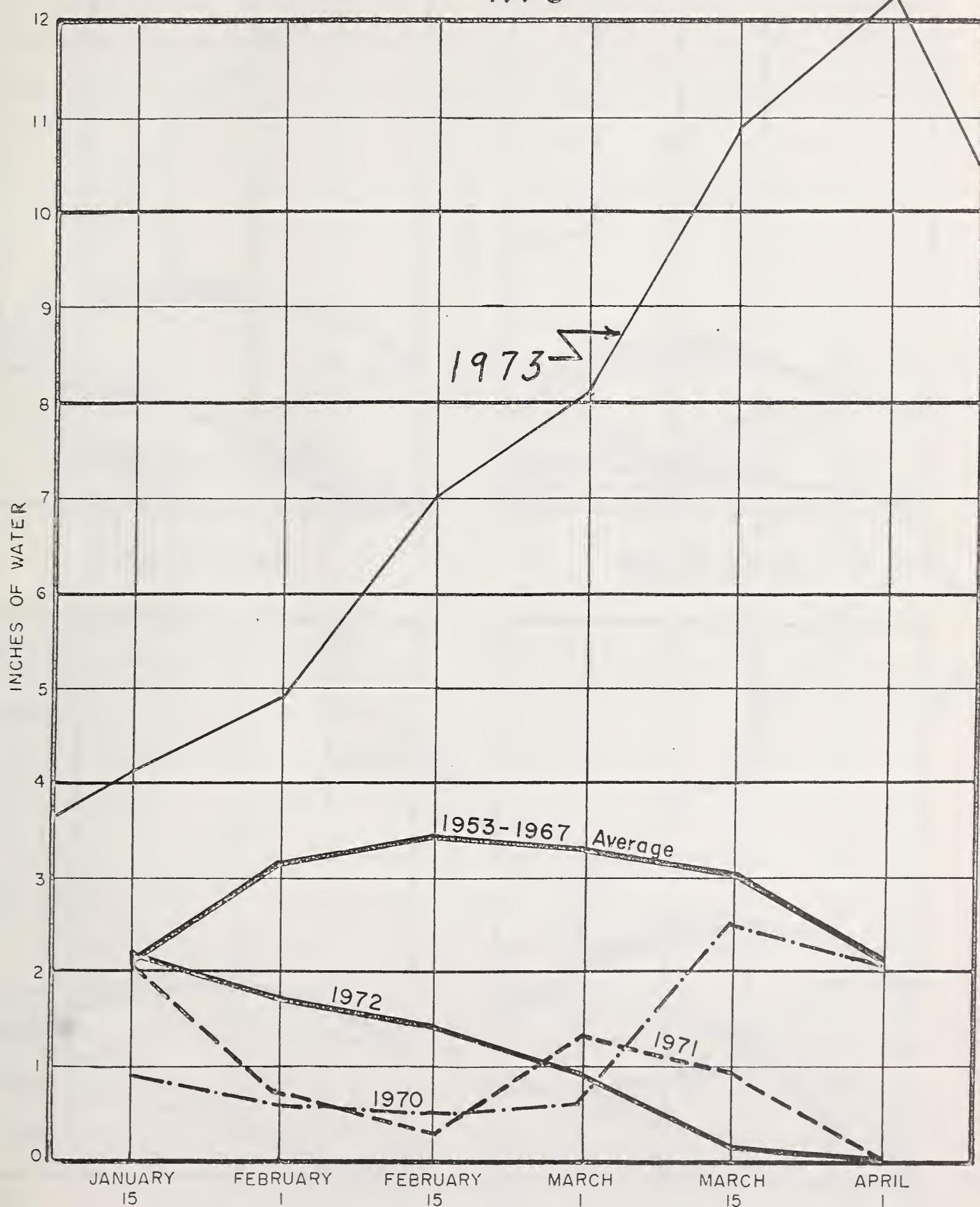
## RESERVOIR STORAGE (Thousand Acre Feet) MID-MONTH READING

ABOUT APRIL 15, 1973

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average+
<u>GILA RIVER DRAINAGE</u>					
Agua Fria	Lake Pleasant	157.6	157.2	NO AVERAGE FOR THIS DATE	
Granite	Watson Lake	4.7	4.7		
Granite	Willow Creek	6.1	6.1		
Gila	San Carlos	948.6	726.7		
Salt (4)	Roosevelt, Apache, Canyon & Saguaro	1755.0	1579.0		
Verde (2)	Bartlett & Horseshoe	317.7	298.0		
Salt and Verde	6 Salt River Project Reser- voirs	2072.7	1877.0		
<u>COLORADO RIVER DRAINAGE</u>					
Little Colorado	Lyman	30.6	15.0		
Little Colorado	Show Low Lake	5.1	5.1		



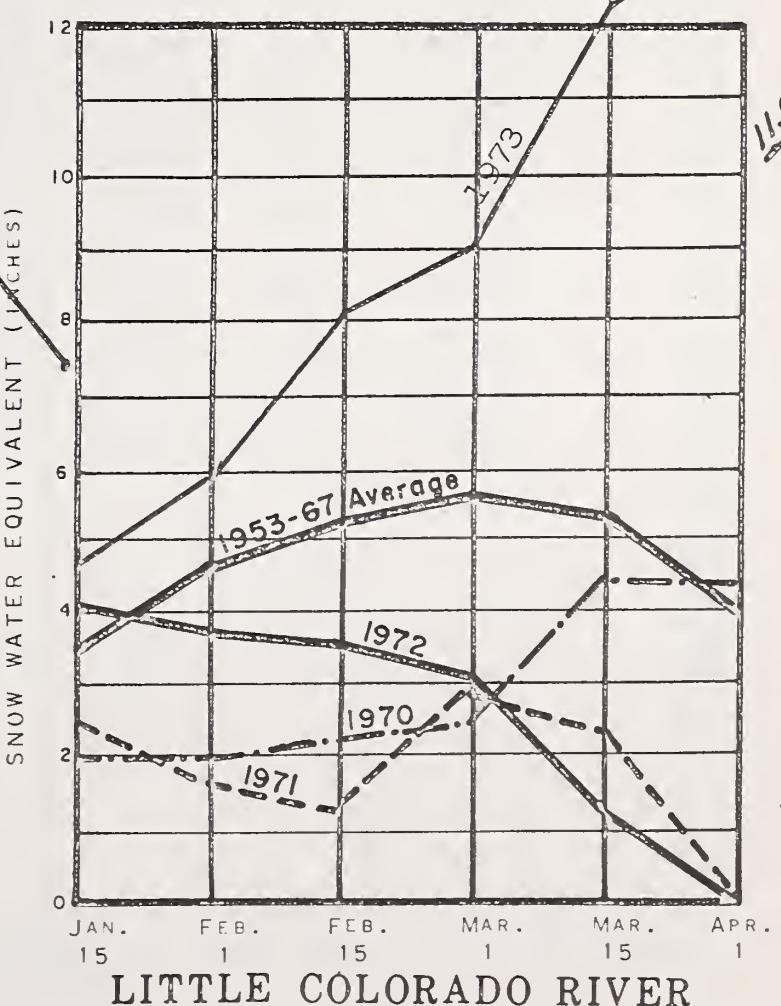
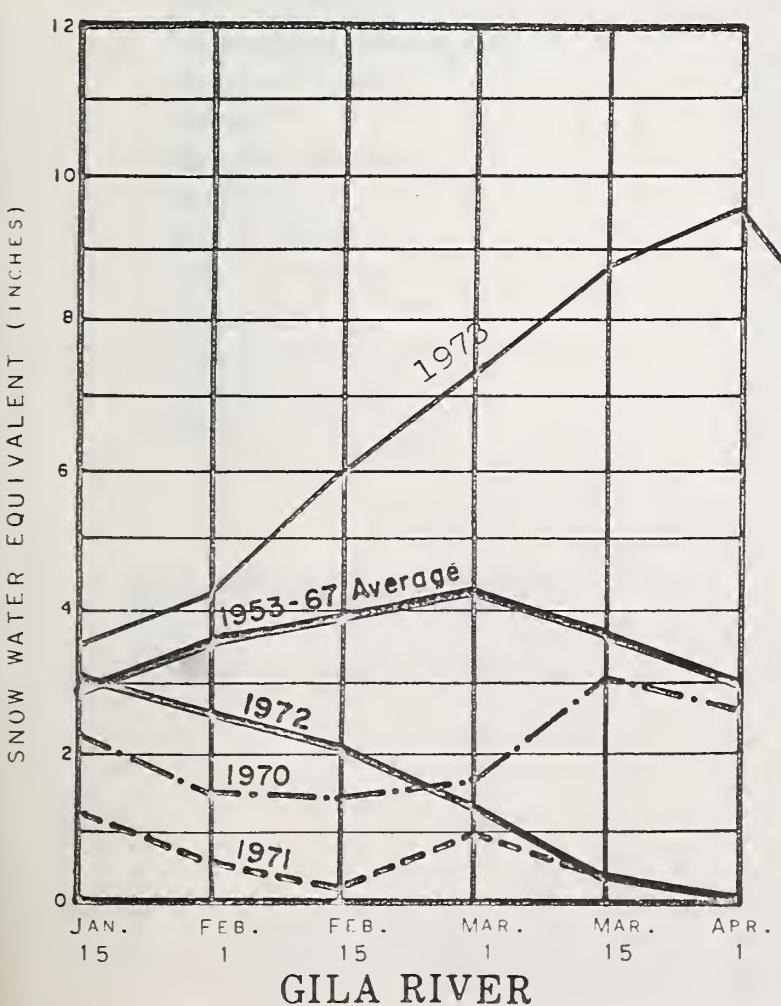
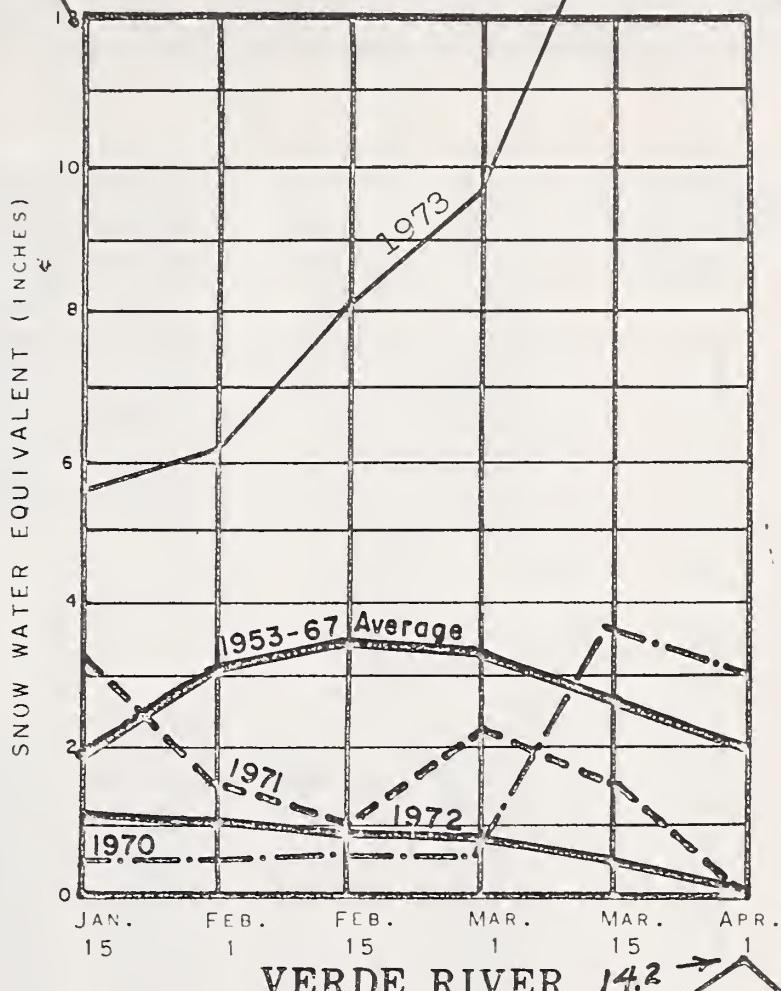
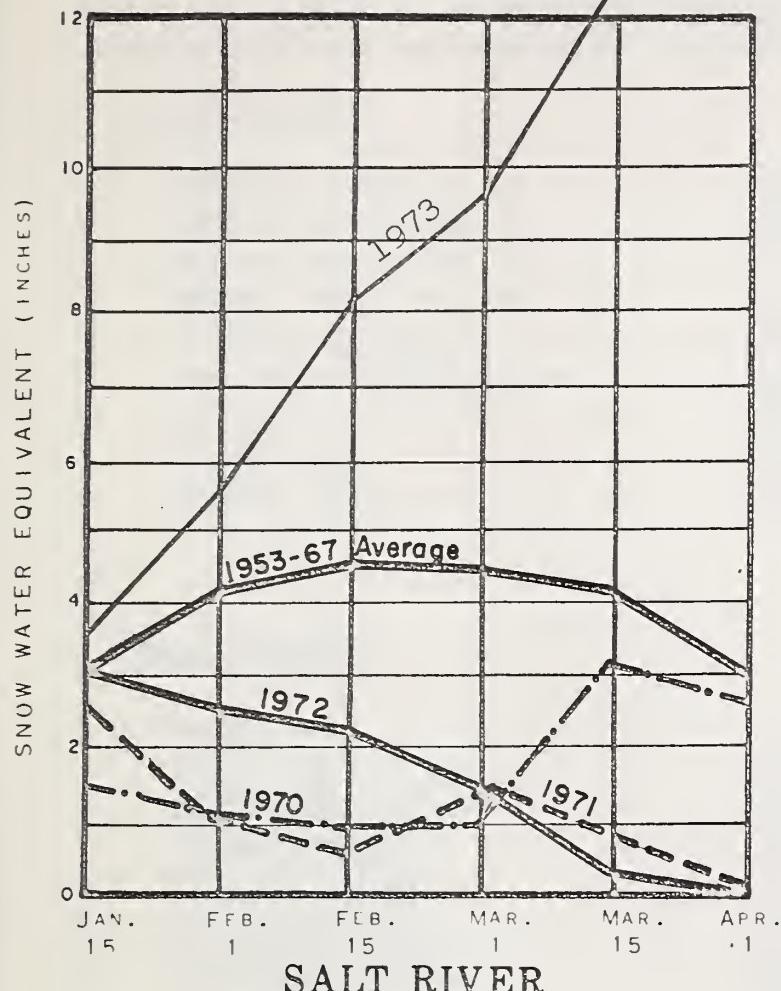
# RELATIVE SNOW WATER ACCUMULATION ARIZONA 1973



*This graph represents the average snow water content on eleven selected snow courses on Arizona Sub-Watersheds.*



# ARIZONA SNOW COVER BY WATERSHEDS





## SNOW

ABOUT APRIL 15, 1973

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
<u>GILA RIVER</u>						
Beaver Head	8000	4/13	13	4.4	NO AVERAGE	
Coronado Trail	8000	4/12	13	5.3	FOR THIS	
Emory Pass #1 *	7800	4/13	0	0.0	DATE	
Emory Pass #2 *	7800	4/13	0	0.0		
Frisco Divide	8000	4/13	13	4.4		
Hannagan Meadows *	9090	4/13	53	19.2		
Mogollon	7000	4/13	0	0.0		
Nutrioso	8500	4/12	9	2.5		
State Line	8000	4/13	14	6.1		
<u>SALT RIVER</u>						
Baldy *	9125	4/13	42	14.9		
Baldy #2 *	9750	4/12	83	33.2		
Baldy #3 *	10950	4/12	117	47.1		
Beaver Head	8000	4/13	13	4.4		
Canyon Creek	7500	4/13	27	11.0		
Canyon Point	7600	4/13	32	13.4		
Coronado Trail	8000	4/12	13	5.3		
Forest Dale	6430	4/13	0	0.0		
Ft. Apache	9160	4/13	42	14.7		
Hannagan Meadows	9090	4/13	53	19.2		
Hawley Lake	8300	4/13	45	19.8		
Heber	7600	4/13	30	13.5		
Maverick Fork	9050	4/13	49	18.7		
McNary	7200	4/13	18	6.8		
Milk Ranch	7000	4/13	9	3.2		
Mt. Ord (A)	11000	4/11	134	52.6		
Nutrioso *	8500	4/12	9	2.5		
Sunrise Summit	10600	4/11	80	28.2		
Wilson Lake	9000	4/13	51	20.1		
Workman Creek	6900	4/12	40	17.6		
<u>BILL WILLIAMS RIVER</u>						
Copper Basin Divide	6720	4/13	9	3.3		
+ 1953-67 15-year period. (*) Adjacent drainage. (A) Aerial Observation: Water content estimated.						
- 7 -						





## SNOW

ABOUT APRIL 15, 1973

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
NAME	Elevation					Average +
<u>VERDE RIVER</u>						
Baker Butte	7300	4/13	46	19.4	NO AVERAGE	
Baker Butte #2	7700	4/13	69	29.7	FOR THIS	
Chalender *	7100	4/13	25	8.9	DATE	
Copper Basin Divide	6720	4/13	9	3.3		
Fort Valley	7350	4/13	18	5.9		
Gaddes Canyon	7600	4/13	50	18.8		
Happy Jack	7630	4/13	49	18.3		
Mingus Mountain	7100	4/13	4	1.6		
Mormon Lake *	7350	4/13	41	16.7		
Mormon Mountain	7500	4/13	54	21.8		
Newman Park	6750	4/13	26	9.9		
White Horse Lake Jct.	7150	4/13	34	13.4		
White Spar	6000	4/13	0	0.0		
<u>LOWER COLORADO RIVER</u>						
Bill Williams Int.	8550	4/13	76	27.9		
Bill Williams Summit	8950	4/13	83	30.1		
Bright Angel	8400	4/13	57	22.0		
Chalender *	7100	4/13	25	8.9		
Fort Valley	7350	4/13	18	5.9		
Williams Ski Run	7720	4/13	70	24.6		
<u>LITTLE COLORADO RIVER</u>						
Agassiz	11200	4/5	Over 102"	Depth		
Baldy	9125	4/13	42	14.9		
Baldy #2	9750	4/12	83	33.2		
Baldy #3	10950	4/12	117	47.1		
Canyon Creek	7500	4/13	27	11.0		
Canyon Point	7600	4/13	32	13.4		
Cheese Springs	8600	4/13	26	9.3		
Doyle Saddle	10900	4/5	Over 102"	Depth		
Forest Dale	6430	4/13	0	0.0		
Ft. Apache	9160	4/13	42	14.7		
Fort Valley	7350	4/13	18	5.9		
Happy Jack *	7630	4/13	49	18.3		
Heber	7600	4/13	30	13.5		
Inner Basin #1	10100	4/5	125	43.9		
Inner Basin #2	9750	4/5	95	31.2		
McNary	7200	4/13	18	6.8		
Mormon Lake	7350	4/13	41	16.7		
Mormon Mountain	7500	4/13	54	21.8		
Nutrioso	8500	4/12	9	2.5		
Wilson Lake *	9000	4/13	51	20.1		
+ 1953-67 15-year period. (*) Adjacent drainage. (A) Aerial observation: Water content estimated.						
- 8 -						
+ 1953-1967 period.						

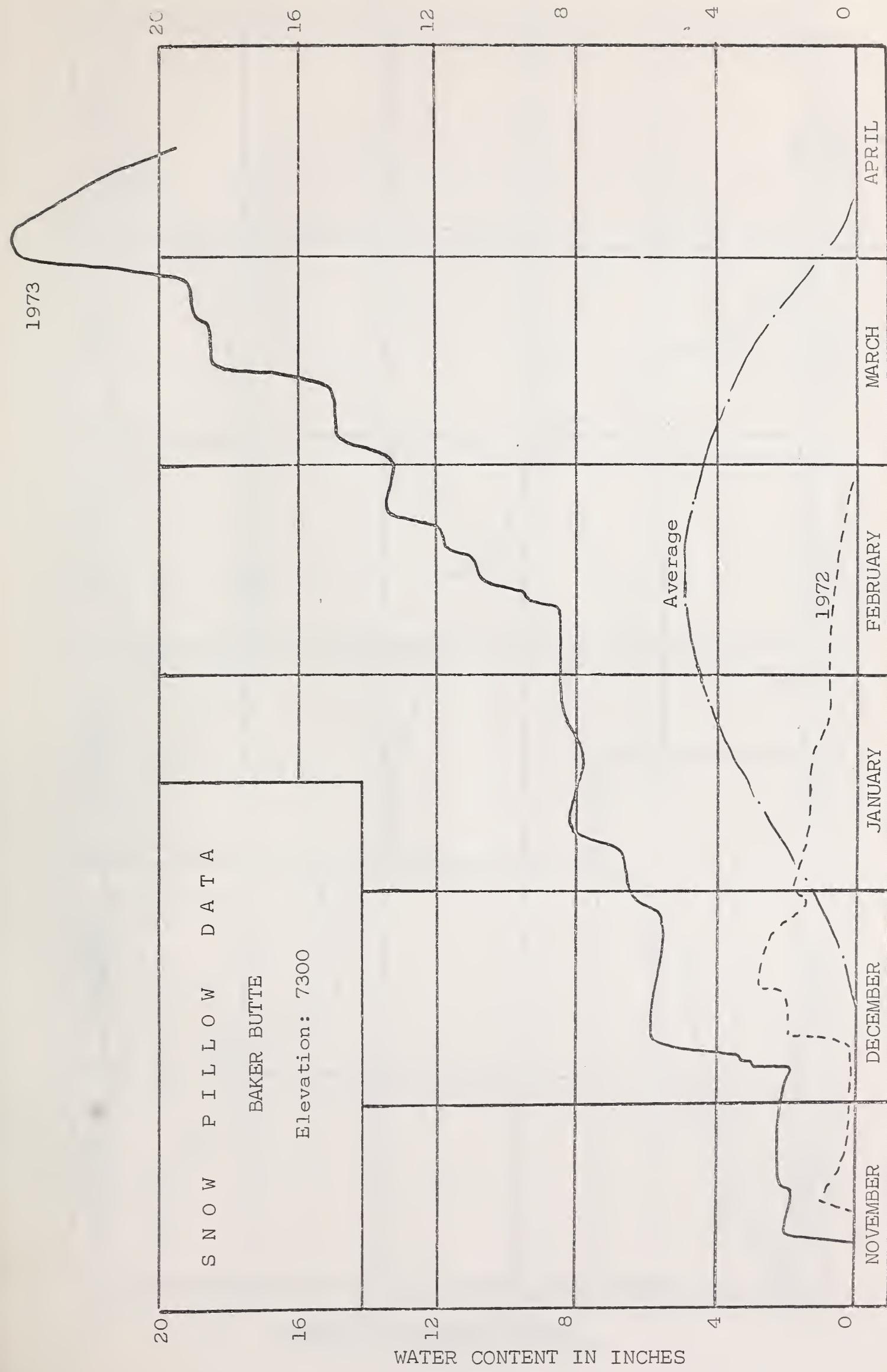


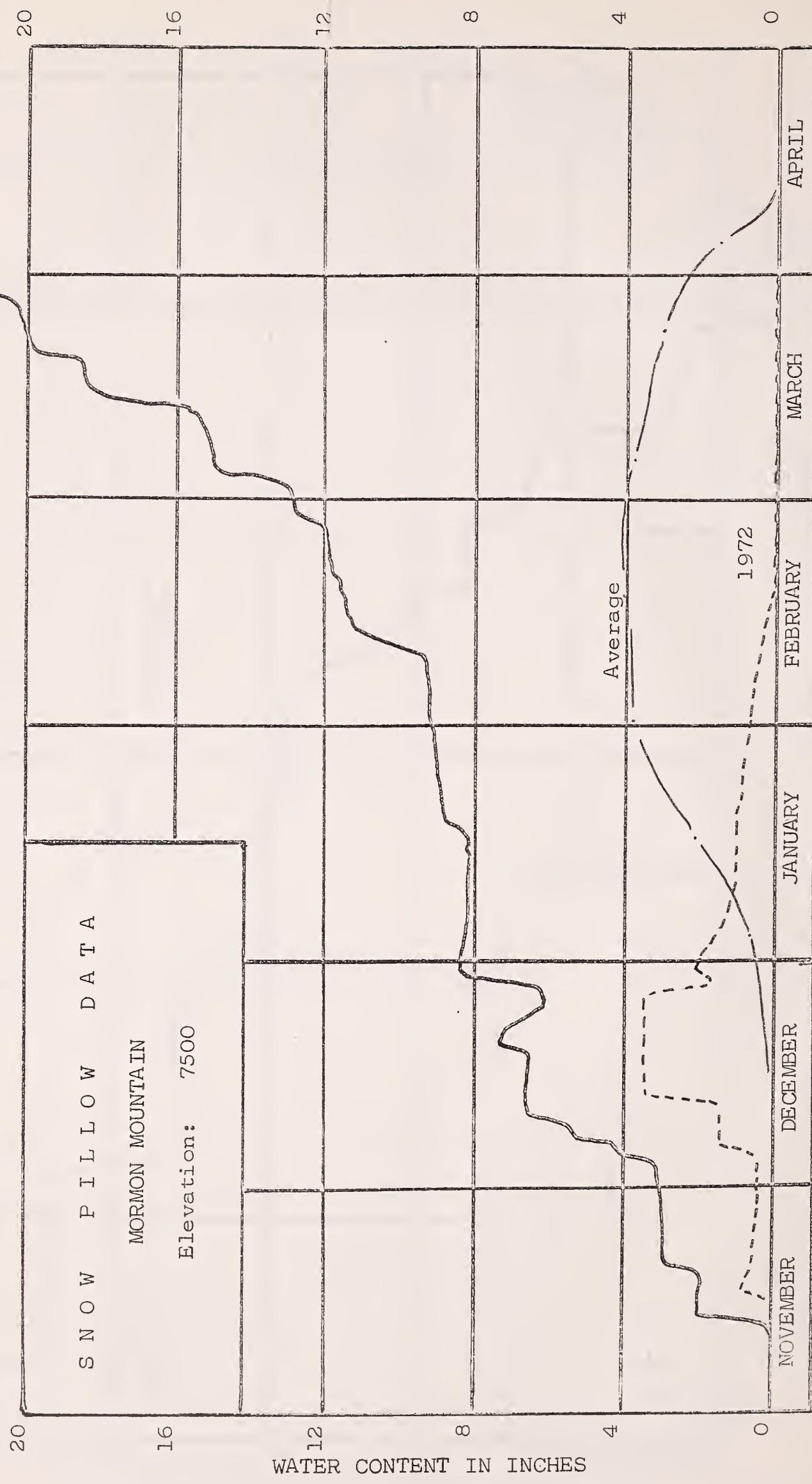
## SNOW

## 1973 ADDITIONS

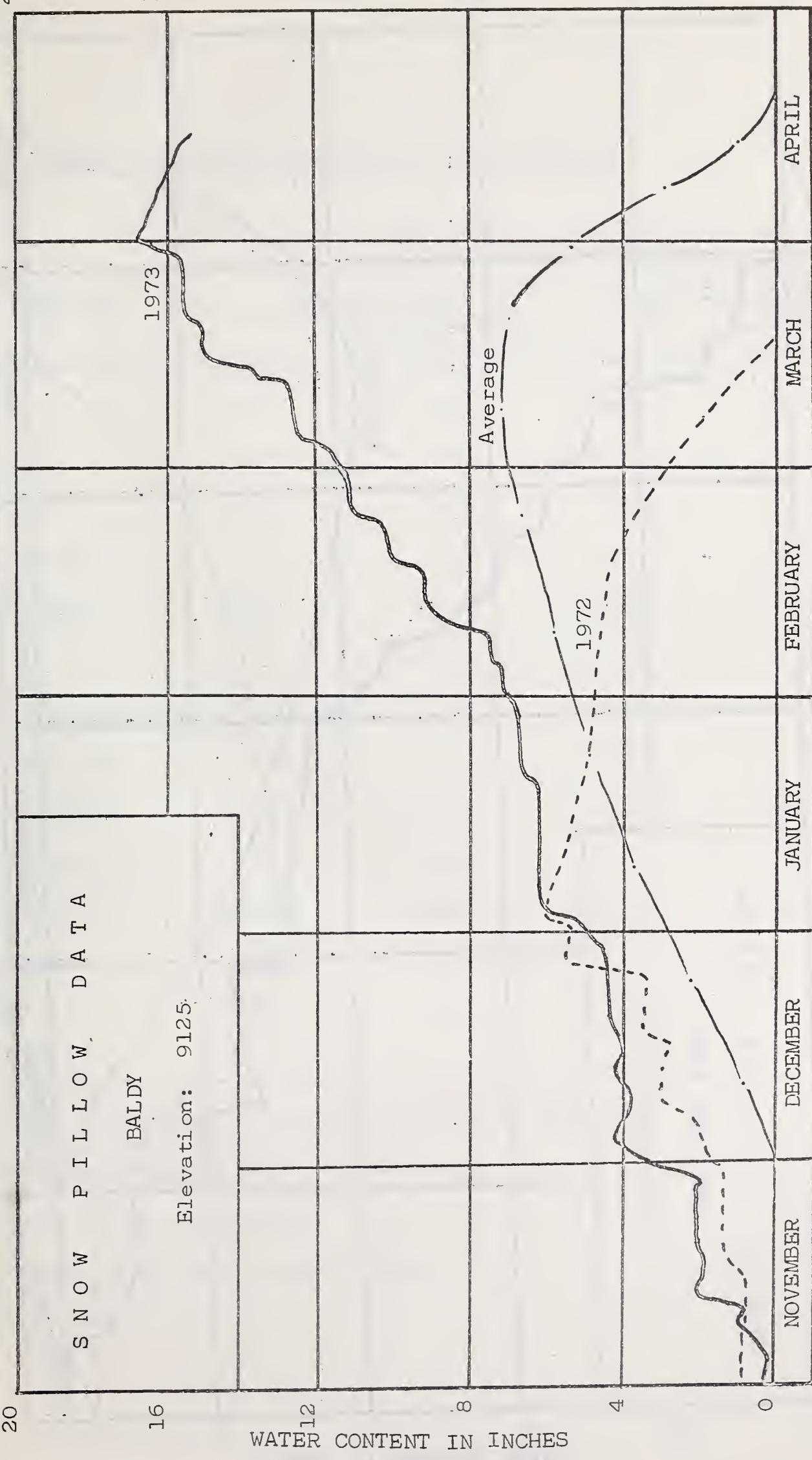
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	THIS YEAR		PAST RECORD	
			Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
NAME	Elevation					Average +
<u>GILA RIVER</u>						
Bear Wallow	8100	2/14	7	2.1	0.0	4.3
Coronado Trail	8000	3/22	22	8.6	No Average	
Rose Canyon	7300	2/14	8	2.3	0.0	2.8
<u>SALT RIVER</u>						
Forest Dale	6430	3/21	5	2.0	No Average	
McNary	7200	3/21	24	9.0	"	
Smith Cienega (A)	9850	3/22	103	34.1	"	
<u>VERDE RIVER</u>						
Baker Butte	7300	3/23	60	19.1	No Average	
Mingus Mountain	7100	3/21	14	3.8	"	
<u>LOWER COLORADO RIVER</u>						
Chalender *	7100	3/22	37	9.9	No Average	
Fort Valley	7350	3/22	33	8.4	"	
<u>LITTLE COLORADO RIVER</u>						
Canyon Creek	7500	3/23	42	13.0	No Average	
Canyon Point	7600	3/23	47	14.6	"	
Doyle Saddle	10900	2/8	Over	102" Depth	"	
Doyle Saddle	10900	3/5	Over	102" Depth	"	
Happy Jack	7630	3/22	54	16.4	"	
Heber	7600	3/23	45	14.6	"	

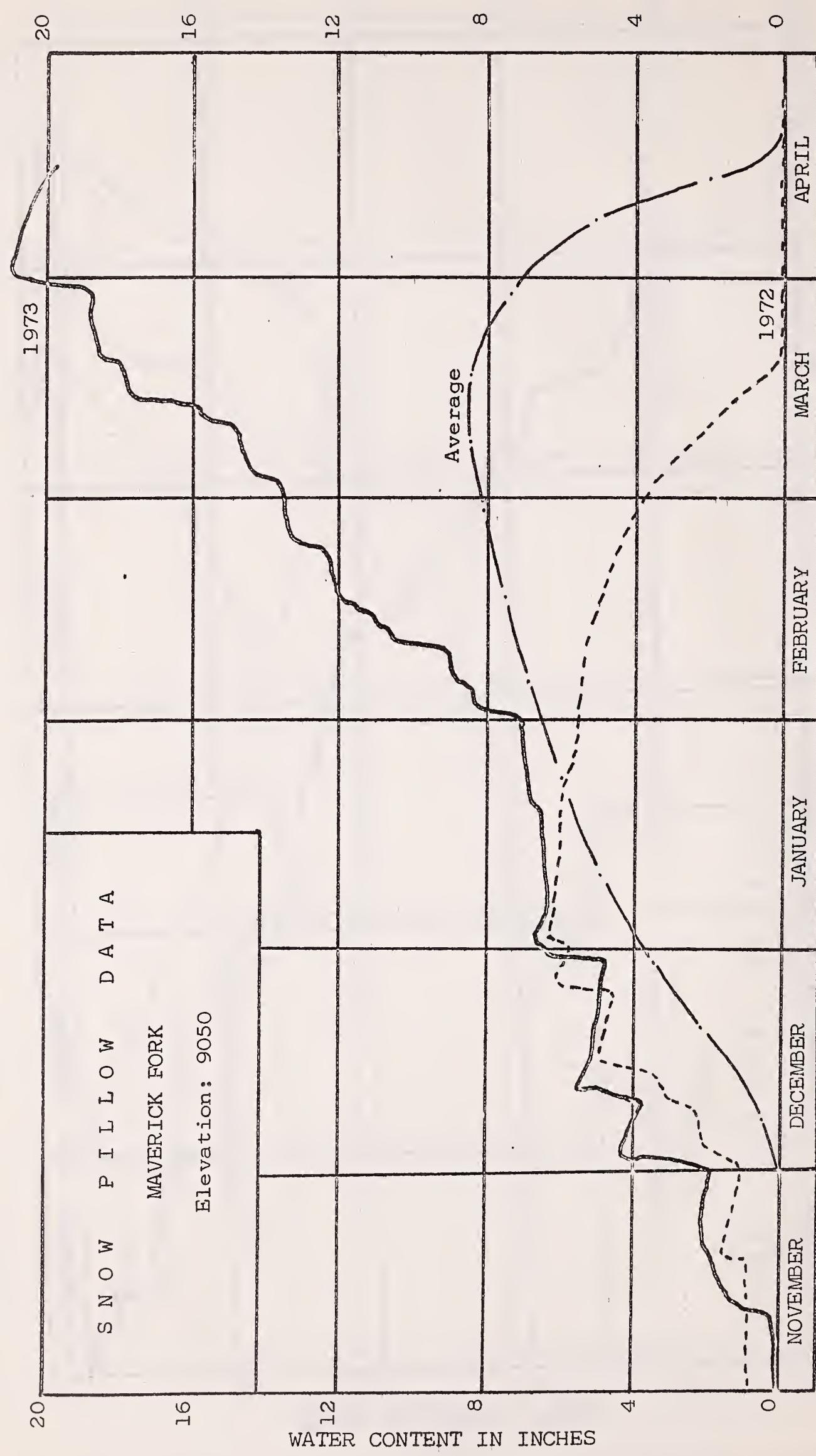






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PRECIPITATION AT SELECTED ARIZONA STATIONS <sup>1/</sup>

STATION	Precipitation (Inches)			
	March - 1973		Current Water Year (Oct. 1972-March 1973)	
	Total	Departure from Normal	Total	Departure from Normal
Alpine	2.25	+ 1.01	18.16	+ 10.14
Ash Fork	1.93	+ .96	12.84	+ 7.10
Clifton	1.00	+ .28	9.69	+ 4.69
Douglas Smelter	1.69	+ 1.23	7.53	+ 3.99
Flagstaff WSO*	6.18	+ 4.73	28.09	+ 18.86
McNary	9.33	+ 6.80	28.73	+ 15.96
Payson Ranger Station	5.01	+ 3.30	26.08	+ 15.31
Phoenix WSFO **	1.69	+ 1.03	10.15	+ 6.11
Prescott (City)	5.02	+ 3.26	21.51	+ 11.76
Springerville	.97	+ .35	5.55	+ 1.96
Tucson WSO*	2.20	+ 1.67	10.28	+ 5.91
Winslow WSO*	2.07	+ 1.68	11.27	+ 8.43
Yuma WSO*	.95	+ .71	4.22	+ 2.41

<sup>1/</sup> Data and Analysis furnished by Paul C. Kangieser  
 NOAA Climatologist for Arizona  
 National Weather Service, Phoenix

WSO\* Weather Service Office

WSFO\* Weather Service Forecast Office



## PRECIPITATION (Inches)

ABOUT APRIL 15, 1973

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION			FROM APPROX. NOV. 1 TO DATE		
		Date of Reading	Month's Precipitation	Average +	This Year	Average +	Percent of Average
<u>GILA RIVER</u>							
Hannagan Meadows **	9030	4/13	.90	1.82*	21.78	15.06*	145
Frisco Divide **	8000	4/13	.70	---	11.11	---	---
<u>SALT RIVER</u>							
Canyon Point	7600	4/13	1.00	1.32*	31.47	18.45*	171
Hannagan Meadows **	9030	4/13	.90	1.82*	21.78	15.06*	145
Little Wildcat (Heber Snow Course)	7600	4/13	.80	.93*	26.22	15.45*	170
Maverick Fork	9050	4/13	.91	.87*	20.02	13.39*	150
Workman Creek **	6970	4/12	0	.90	28.83	18.16	159
Wilson Lake	9100	4/13	.61	---	19.20	---	---
<u>VERDE RIVER</u>							
Baker Butte	7300	4/13	.82	1.10*	30.45	18.55*	164
Copper Basin Divide	6720	4/13	.50	.76*	25.64	11.92*	215
Fort Valley **	7350	4/13	.68	.92	16.73	10.02	167
Happy Jack **	7480	4/13	1.39	1.10*	25.97	12.39*	210
Mingus Mountain	7660	4/14	.20	.95	21.65	10.74	202
Mormon Mountain	7500	4/13	1.30	1.05*	33.33	16.26*	205
White Horse Lake Jct. **	7150	4/13	0	---	23.92	---	---
<u>LITTLE COLORADO</u>							
Inner Basin #1	9830	4/5	---	---	29.12	15.33	190
Inner Basin #2	10050	4/5	---	---	35.96	---	---
Sheep Crossing (Baldy Snow Course)	9125	4/13	1.03	.91*	19.22	12.67*	152
Little Wildcat (Heber Snow Course)	7600	4/13	.80	.93*	26.22	15.45*	170
Greer Lakes	8500	4/13	.35	.46	8.05	6.56	123

+ 1953-67 Average  
 \* Adjusted Average  
 \*\* Data Supplied by  
 U. S. Forest Service



## The Following Organizations Cooperate in the Arizona Snow Survey Work

### FEDERAL

Department of Agriculture  
Soil Conservation Service  
Forest Service  
    Apache Forest  
    Coconino Forest  
    Coronado Forest  
    Gila Forest  
    Kaibab Forest  
    Prescott Forest  
    Rocky Mountain Forest and Range Experiment Station  
    Tonto Forest  
Department of Commerce  
    NOAA, National Weather Service  
Department of Interior  
    Bureau of Reclamation  
        Region 111  
    Geological Survey  
        Arizona District  
        New Mexico District  
    Bureau of Indian Affairs  
        Fort Apache Reservation  
        San Carlos Irrigation Project  
    National Park Service  
        Grand Canyon National Park  
    Gila Water Commissioner  
        Safford, Arizona

### STATE

Arizona Game and Fish Department  
Arizona State Parks Board  
University of Arizona  
    Arizona Agricultural Experiment Station  
    Water Resource Research Center  
    Department of Watershed Management

### MUNICIPAL

City of Flagstaff

### IRRIGATION PROJECTS

Salt River Valley Water User's Association  
    Phoenix, Arizona  
San Carlos Irrigation and Drainage District  
    Coolidge, Arizona  
Maricopa County Municipal Water Conservation District

### PRIVATE

Southwest Forest Industries, Inc.  
    McNary, Arizona  
Fort Apache Indian Reservation  
    White Mountain Recreation Enterprises

Other organizations and individuals furnish valuable information for  
the snow survey reports. Their cooperation is gratefully acknowledged.



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with the Snow Survey"*